



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 2, 2016

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer (CNO)
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 – ACCEPTANCE REVIEW CONCERNING THE PERMANENT EXTENSION OF TYPE A AND TYPE C LEAK RATE TEST FREQUENCIES (CAC NOS. MF8387 AND MF8388) (PID L-LA-2016-29559) (RS-16-187)

Dear Mr. Hanson:

By application dated September 19, 2016 (Agencywide Documents Access Management System (ADAMS) Accession No. ML16263A267), Exelon Generation Company, LLC (Exelon, or the licensee) submitted a license amendment request for Quad Cities Nuclear Power Station, Units 1 and 2 (Quad). The proposed amendment would revise the technical specifications (TS) 5.5.12, "Primary Containment Leakage Rate Testing Program," to allow a permanent extension of the Type A Integrated Leak Rate Testing and Type C Leak Rate Testing frequencies. The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an amendment to the license (including the technical specifications) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has reviewed your application and concluded that the licensee did not follow guidance and the information delineated in the enclosure to this letter is necessary to enable the NRC staff to make an independent assessment regarding the acceptability of the proposed amendment request in terms of regulatory requirements and the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests that Exelon supplement the application to address the information requested in the enclosure by December 19, 2016. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its review activities associated

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with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated time frame in this letter were discussed with Kenneth Nicely of your staff on November 30, 2016.

If you have any questions, please contact the Quad Cities Project Manager.

Sincerely,

/RA/

Eva A. Brown, Senior Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-254 and
50-265

Enclosures: As stated

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QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 –
REQUEST OF SUPPLEMENTAL INFORMATION FOR THE
ACCEPTANCE REVIEW CONCERNING THE PERMANENT EXTENSION
OF TYPE A AND TYPE C LEAK RATE TEST FREQUENCIES
(CAC NOS. MF8387 AND MF8388) (PID L-LA-2016-29559) (RS-16-187)

Based on the information provided in the license amendment request for Quad Cities Nuclear Power Plant (QCNPS), (Exelon, the licensee) is using a risk-informed approach to support the containment integrated leak rate test (ILRT) frequency extension. Consistent with Section 4.1 of Regulatory Guide (RG) 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," and with Regulatory Issue Summary 2007-06, "Regulatory Guide 1.200 Implementation," it is requested that the licensee provide the necessary documentation to demonstrate the technical adequacy of QCNPS probabilistic risk analysis (PRA) against RG 1.200, Revision 2. The supplemental information should address the following items:

1. Table A-1 of Appendix A located in Attachment 3 to the LAR appears to provide a summary of gaps from a self-assessment performed against RG 1.200, Revision 0. To demonstrate technical adequacy of the internal events PRA against RG 1.200, Revision 2, at Capability Category I, as required for the ILRT LAR, provide the following:
 - (a) A list of Facts and Observations (F&Os) from all applicable peer reviews and self-assessments of the internal events PRA.
 - (b) For each F&O, include details of its disposition, and if open, provide an explanation of why not meeting the corresponding Capability Category I requirements has no impact on the application.
2. Appendix A located in Attachment 3 to the LAR states that the "2014A PRA model is the result of upgrading the... PRA model in resolution of the self-assessment gaps," and the self-assessment F&O HR-D3 appears to indicate a "possible upgrade to the pre-initiator HRA [human reliability analysis]".
3. As defined in the PRA standard American Society of Mechanical Engineers and American Nuclear Society (ASME/ANS) - RA-Sa-2009, a PRA upgrade is "the incorporation into a PRA model of a new methodology or significant changes in scope or capability that impact the significant accident sequences or the significant accident progression sequences." Further, according to the PRA standard, "new should be interpreted as new to the subject PRA even though the methodology in question has been applied in other PRAs" (Section 1-A.1 of ASME/ANS RA-Sa-2009). For example, employing a different HRA approach to human

Enclosure

error analysis constitutes a PRA upgrade as discussed in "Example 24" in Section 1-A.3.24 of ASME/ANS RA-Sa-2009. Per the PRA standard, peer reviews are required for all PRA upgrades, therefore, the following information needs to be provided:

- (a) Describe all changes, including any new analyses or incorporation of new methodology performed in the internal events PRA model since the latest full-scope peer review from 2000 and justify whether any of these changes fits the definition and criteria of ASME/ANS RA-Sa-2009 for a PRA upgrade.
- (b) If any of these changes fit the definition and criteria of ASME/ANS RA-Sa-2009 for a PRA upgrade, perform a focused scope peer review on the affected supporting requirement and provide the F&Os with a description of the impact on the ILRT application.

the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its review activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated time frame in this letter were discussed with Kenneth Nicely of your staff on November 30, 2016.

If you have any questions, please contact the Quad Cities Project Manager.

Sincerely,

/RA/

Eva A. Brown, Senior Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-254 and
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ADAMS Accession No. ML16307A366

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